

We claim:

1. An apparatus for mixing, drying and coating pulverulent, granular or shaped loose material in a fluidized bed, which comprises
 - 5 a container (10) for accommodating the loose material, with a bowl-like depression (17) being provided in a lower region (13) of the container (10),
 - a central tube (27) for introducing a gas, with the central tube entering the container in an upper region (12) of the container (10), extending essentially axially downward in the container (10) and opening into the depression (17),
 - 10 an essentially annular deflection shield (29) which is fixed to the central tube (27) in the upper region (12) of the container (10),
 - a guide ring (31) which is located in the lower region (13) of the container (10) and surrounds the central tube (27) essentially concentrically at a distance (L) for part of its length so that a first opening (34) is formed between the wall of the container (10) at the upper edge (22) of the depression and the lower end (33) of the guide ring (31) and a second opening (36) is formed between the deflection shield (29) and the upper edge (35) of the guide ring (31), and
 - 15 means (21) for introducing a fluid into the container (10),wherein the outer wall of the central tube (27) is at least partly provided with an adhesion-reducing coating (38).
2. An apparatus as claimed in claim 1, wherein the outer wall of the central tube (27) is provided with the adhesion-reducing coating (38) below the deflection shield (29).
- 25 3. An apparatus as claimed in claim 1 or 2, wherein the guide ring (31) is fixed to the central tube (27) by means of struts (32) which are provided with the adhesion-reducing coating (38).
- 30 4. An apparatus as claimed in any of claims 1 to 3, wherein the underside of the deflection shield (29) and/or the inside wall of the guide ring (31) are provided with the adhesion-reducing coating (38).
- 35 5. An apparatus as claimed in any of claims 1 to 4, wherein the adhesion-reducing coating (38) is a polymer of a fluorinated, preferably perfluorinated, ethylenically unsaturated hydrocarbon.
- 40 6. An apparatus as claimed in claim 5, wherein the adhesion-reducing coating (38) is a fluoropolymer such as polytetrafluoroethylene.
7. An apparatus as claimed in any of claims 1 to 6, wherein the distance (L) between the wall of the central tube (27) and the wall of the guide ring (27) is

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greater than the open height (H3) of the first opening (34) .

- 5 8. An apparatus as claimed in any of claims 1 to 7, wherein the distance (L) between the wall of the central tube (27) and the wall of the guide ring (31) is less than $\frac{2}{3}$ of the diameter (D_A), preferably less than half the diameter (D_A), of the deflection shield (29).
- 10 9. An apparatus as claimed in claim 7 or 8, wherein the distance (L) is greater when loose material (26) having larger dimensions is used.
- 15 10. An apparatus as claimed in any of claims 1 to 9, wherein the height (H2) of the guide ring (31) is in the range from one third to two thirds of the distance (H) between the upper edge (22) of the depression (17) and the central axis (37) of the container.
- 20 11. An apparatus as claimed in any of claims 1 to 10, wherein the diameter of the guide ring (31) corresponds essentially to half the diameter of the container.
12. A method of producing supported catalysts, which comprises fluidizing the catalyst supports in an apparatus as claimed in any of claims 1 – 11 and coating them by spraying them with a catalyst-containing suspension.